



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,658	06/13/2001	Benjamin N. Eldridge	276440-6	7329

27520 7590 04/13/2004

FORMFACTOR, INC.
LEGAL DEPARTMENT
2140 RESEARCH DRIVE
LIVERMORE, CA 94550

EXAMINER

PERT, EVAN T

ART UNIT	PAPER NUMBER
----------	--------------

2829

DATE MAILED: 04/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/880,658

Applicant(s)

ELDRIDGE ET AL.

Examiner

Evan Pert

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 34-46, 51-64 and 69-71 is/are pending in the application.
- 4a) Of the above claim(s) 69-70 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 34-46, 51-64 and 71 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0403 & 0803.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Claims 69-70 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Species 1A, there being no allowable generic or linking claim. Election was made **without** traverse in a paper received 1-9-04.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 36-40 and 53-57 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 36-40 and 53-57 define a relative "increase" of inherent characteristic parameters that generally describe spring contact "beams." Yet, the claimed "increase" of "stiffness", "bending moment", "elastic range", "elastic deflection", and "an area of moment" are not set forth relative to any particular structure. Applicant essentially uses product-by-process language to describe the product structure being claimed. While applicant may use product-by-process language, in such a case the claim limitations must be clearly directed to the product [see MPEP 2173.05(p)].

In the instant case, there is no way define a clear scope of "...contoured to increase..." beam *characteristic parameters*:

The actual and completed contour of a "beam" of the product being claimed has fixed characteristic parameters of "stiffness", "bending moment", "elastic range", "elastic deflection", and "an area of moment", but these fixed parameters are only claimed in relative terms as increased compared to ambiguous values.

The examiner does not clearly understand what values of "stiffness", "bending moment", "elastic range", "elastic deflection", and "an area of moment" are being claimed for a "beam" of the instantly claimed product.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 34-42, 45-46, 51-59, 63-64 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Khandros et al. (WO 96/154458).

Regarding claims 34, 35, 41, 42, 45, 46, 51, 52, 58, 59, 63 and 64, the cover figure shows a test head assembly 500 with probe card 502 and interposer 512 with spring contact beams 514 and 516 extending away from first and second surfaces of the interposer, and the beams 514 and 516 are clearly contoured along the length in a serpentine shape that can be called "corrugated," to affect a deflection characteristic of the beams, and wherein the beams are not uniform in cross-section, so they can be considered as "contoured along a cross-sectional width thereof".

Regarding claims 36-40 and 53-57, as best understood in view of the rejections under 35 USC 112 above, the beams 514 and 516 each have "a stiffness", "a bending moment", "an elastic range", "an elastic deflection", and "an area of moment," which include values that are increased relative to the non-contoured (non-bent) beam.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 43-44, 60-62 and 71 are rejected under 35 U.S.C. 103(a) as being obvious over Khandros et al., as applied to claims 34 and 51 above, and further in view of Grube et al. (US 2001/0012739).

Khandros et al. is silent about the cross-sectional width of beams 514 and 516 being V-shaped, U-shaped or includes a "rib."

Grube et al. teaches the cross-sectional widths of V-shaped, U-shaped and "rib" [Fig. 5b] as advantageous [0057] and "particularly useful."

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to adopt the V-shaped, U-shaped, or ribbed cross-sectional widths taught by Grube et al. because these configurations are "particularly useful."

The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e).

This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Information Disclosure Statement of September 13, 2001

6. Applicant's submission of an IDS entered 9-25-01 is acknowledged. However, the examiner was only able to locate the IDS papers filed April 7, 2003 and August 11, 2003.

As part of the response to this action, applicant should submit a copy of the IDS originally submitted 9-13-01, so the examiner may consider the references therein and return an initialed copy.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Evan Pert whose telephone number is 703-306-5689. The examiner can normally be reached on M-F (7:30AM-3:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on 703-308-1233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ETP
March 31, 2004


EVAN PERT
PRIMARY EXAMINER